

AMENDMENTS

IN THE CLAIMS:

It is requested that the following claims be amended as shown below:

1. (currently amended) A method for supporting and positioning a payload effecting simultaneous vibration isolation and large force and stroke position actuation comprising the steps of:

- a) supporting the payload on a frictionless gas piston of gas bearing construction,
- b) commanding gas pressure applied to the frictionless gas piston with a pneumatic servo-valve,
- c) measuring the error in pressure resulting upon the frictionless gas piston, and
- d) applying a magnetic force in parallel to the resulting pressure in proportion to the measured pressure error.

2. (currently amended) The method of Claim 1 wherein the step a) of supporting the payload is further comprised of sizing a gas tank and a cylinder supporting the frictionless gas piston to a volume providing a gas-spring stiffness to yield a desired low vibration isolation frequency of the payload.

3. (currently amended) The method of Claim 1 wherein the step d) of applying a magnetic force in parallel is further comprised of applying a magnetic force to a coil attached to the frictionless gas piston.
4. (currently amended) The method of Claim 1 wherein the coil and frictionless gas piston are attached via a common uniaxial carriage.
5. (currently amended) The method of Claim 4 wherein the uniaxial carriage is supported on gas bearings ~~and the gas piston is of gas bearing construction~~ such that the carriage is completely supported laterally on a film of gas.
6. (currently amended) The method of Claim 5 wherein the gas bearings and frictionless gas piston are completely contained within a gas tight housing, and bearing feed pressure is supplied by a pressure line to the gas tight housing, and bearing escape gas is scavenged and drawn off with a gas scavenging line from the housing such that the carriage, bearings and housing effect a gas tight isolator-actuator unit suitable for vacuum environment usage.